

# EUROPEAN PATENT OFFICE

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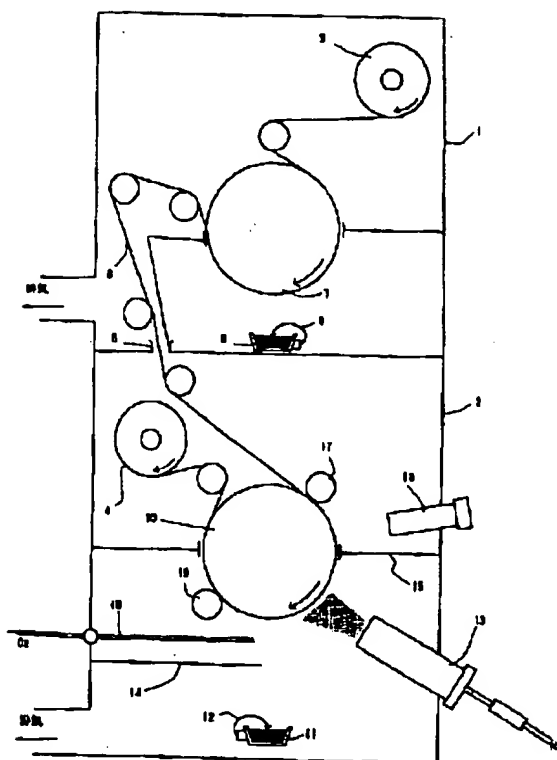
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APPLICANT : KAO CORP;

INVENTOR : ISHIKAWA JUNKO;

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TITLE : MAGNETIC RECORDING MEDIUM AND  
ITS PRODUCTION



**ABSTRACT :** PROBLEM TO BE SOLVED: To improve the film forming rate and to enhance the corrosion resistance of a magnetic recording medium by forming a semiconductor layer on a substrate, heating the semiconductor layer, and then forming an iron nitride magnetic layer thereon.

**SOLUTION:** A semiconductor layer is formed on a polyethylene terephthalate substrate, then the semiconductor layer is heated, and a magnetic layer using an iron nitride magnetic material is formed on the heated semiconductor layer. The production method includes the following processes. When the substrate consists of a base film such as polyethylene terephthalate(PET) which is stretched along the longitudinal direction, the base film 6 of the substrate is continuously carried from a vacuum chamber 1 to a vacuum chamber 2. The semiconductor layer is formed by vapor deposition in the vacuum chamber 1, and the magnetic layer is formed by ion assisted vapor deposition in the vacuum chamber 2. By bringing electrodes 17, 18 into contact with the semiconductor layer to apply an electric current, the semiconductor layer is heated and vapor deposition of the magnetic layer is performed at a preferable temp. Thus, the magnetic layer is formed in a good state without damaging the substrate such as PET.

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